Assessment of the Dimensional Application of International Safety Goals for Children in Hospitals

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Abstract

Introduction: Nursing staff has an important role in understanding and apply the six international patient children safety goals to minimized hazards and errors. **The Aim of the study:** This study aimed to assess the dimensional application of nursing for international safety goals in hospitalized children. **Research Design:** A descriptive design was utilize in this study. **Setting**: it was conducted at Pediatric outpatient clinics in Children Hospital affiliated to Ain Shams University Hospitals and and Health Insurance Hospital in Nasr city. T**he subjects**: The subject of this study was convenient sample composed of 100 nurses working at the previously mentioned settings regardless their experiences, level of education, position, or age. **Tools of data collection**: **First tool: A structured Interviewing Sheet:** this tool was designed by the researcher and written in simple Arabic language based on scientific literature review to gather data and knowledge about dimensional of children international safety goals in pediatric department at previously mentioned settings. **Results: T**here was statistical significant difference between years of experience of the studied nurses and their knowledge and practices regarding to child patient safety. **Conclusion:** In the light of the study findings, it might be concluded that, more than half of the studied nurses had poor knowledge and unsatisfactory practices regarding the levels of the dimensional application of international safety goals for children in hospital. Meanwhile the factors contributing as obstacles for dimensional application of international safety goals for children in hospital were observed in the positive relation between the years of experiences of the studied sample and its relation with their level of knowledge and practices. **Recommendation**: Establishing the system of application the international safety goals for children in hospital and emphasize the important of application the international safety goals for children in hospital in nursing.

Key words: International Safety Goals, Dimensional , Application, pediatric patient

Introduction

The definitions of patient safety are emphasizing some aspects on patient safety. It is possible to separate these definitions in two groups, The first group identified patient safety as a dynamic property of the healthcare system that emerges from the interactions of several elements. These kinds of definitions treat incidents as resulting from the ineffective healthcare practice. The second group understands safety as freedom from harm as a result from the implementation of protection measures like procedures safe technology*, namely, management of control and outcome of patient safety (**Macchi et al., 2011**).

Taxonomy defines harm as the impact and severity of a process of care failure.

Emphasis on patient safety is (1) responsibility placed on the system of care delivery by classifying types of errors, (2) adequate communication between patient or patient proxy and practitioners, practitioner and nonmedical staff, or among practitioners, (3) patient management in the ward, delegation, or referral, and (4) clinical performance before, during, and after nursing intervention *(Casey& Wallis, 2011).*

Kelly (2011) mentioned that the sphere of patient safety includes seven steps as follows:

Some steps of patient safety for primary care are: step 1, build a culture of safety by creating a culture that is open and fair; step 2, lead and support staff to establish a clear and strong focus on patient safety; step 3, integrate the risk management activity to develop systems and processes to manage risks, as well as the identification and assessment of things that could go wrong; step 4, promote reporting to ensure staff can easily report incidents locally and nationally; step 5, involve and communicate with patient and the public to develop ways to communicate openly with patient step 6, learn and share safety lessons to encourage staff to use root cause analysis to learn how and why incidents happen; lastly, step 7, implement solutions to prevent harm by embedding lessons on changes in practices, processes or systems.

In additional The *Agency for Healthcare Research and Quality, (2010*) Clarified the 12 dimension of patient safety are including dimension 1) teamwork within units, dimension 2) supervisor/ manager expectation and action promoting patient safety, dimension 3) managing support for patient safety, dimension 4) organizational learning for continuous improvement, dimension 5) overall perception of patient safety, dimension 6) feedback and communication about safety, dimension 7) communication openness, dimension 8) frequency of events reported, dimension 9)

teamwork across unit, dimension 10) staffing, and dimension 11) handoffs, transition and dimension 12)non-punitive response to error.

Build a safety culture.

The implementation of a safety culture in the healthcare system is very important; safety applies not only to the caregiver but also to the child patient and their families, one of the characteristics of a safety culture is a shared *perception* about the concern for safety among managers and staff ,Safety culture is everyone's concern with acknowledgement that error can and would occur. , which will lead to quality and will respond to child patient's needs *(Government of Ireland , 2008).*

Safety culture must be the top priority in healthcare organization which will provide a comfortable atmosphere for staff to openly discuss errors, process improvement or system issues without fear of reprisal. Characteristics of patient's safety culture include open and honest communication, emphasis, supportive and helpful staff, trust among staff, focus on work-flow and process *(Carley et al., 2012).*

Patient Safety Goals

National patient Safety Goals (NPSG) were first developed by The Joint Commission in (2002) after the Institute of Medicine that identified medical errors as one of the nation's highest healthcare priorities *(Agency for Healthcare Research and Quality, 2010).*

Additionally *Mc Master (2008)* mentioned that NPSG have been widely endorsed and adopted by organizations around the world. The NPSG are derived from informal recommendations made by patient safety experts including nurses, physicians, risk managers, pharmacists, and other professionals having practical experience in promoting safety issues.Patient

safeties goals are a condition to be applied in all hospitals are accredited by the Commission on Accreditation of Hospitals. Joint Commission International *(JCI, 2011),* published international patient safety goals consisting of 6 key items, (1) Identify Patient Correctly, (2) Improve Effective Communication, (3) Improve the Safety of High-Alert Medications, (4) Ensure Correct-Site, Correct-Procedure, Correct-Patient Surgery, (5) Reduce the Risk of Health Care–Associated Infections and (6) Reduce the Risk of Patient Harm Resulting from Falls.

Goal 1:-Identifying Child Patient Correctly.

Identifying child patient accurately presents many unique challenges today's in health care settings.

Patient identification errors are the root cause of medication, surgical, charting, dietary, and other medical errors. The failure to correctly identify a patient can result in serious subsequent errors *(Henneman et al., 2012).* World Health Organization Collaborating Center for patient safety solutions recognized that failure to correctly identify patient constitutes one of the most serious risks to patient safety and cuts across all sectors of healthcare practice *(World Health Organization, "WHO" 2007).*

Goal 2:-Improving Effective Communication

Nurses are at the core of the communication process.

In communication process, nurses assess, record and report on the treatments and care, handle information sensitively and confidentially, deal with complaints effectively, and are conscientious in reporting the things they are concerned about *(lyndon, 2012).*

The communication between nurses and patient not only has to be good but also

needs to be effective. Effective communication skills can also be particularly helpful when patient complain. Patient usually see nurses as more approachable than doctors if they have a problem they want to discuss. Nurses can often deal with complaints quickly and effectively before they are taken further and prevent what was initially a minor problem from becoming a long, drawn-out formal complaint *(Casey & Wallis, 2011) and (Vertino, 2014).*

In nursing practice, useful thing to remember in having good communicate to say., the right information to hand for when patient ask questions, maintaining eye contact and observing the patient body language ,active listening; picking up on the non-verbal signs as well as the verbal ones; avoiding the use of medical jargon; and in cases of breaking bad news, being prepared emotionally, trying to find In nursing practice, useful things to remember in having good communication include being prepared to know what are going to say; having the right information to hand for when patient ask questions; maintaining eye contact and observing the patient 's body language; the right environment, and being sensitive, honest and compassionate *(Middleton, 2007).*

Poor communication can even be dangerous as misunderstandings and people getting their wires crossed can lead to misdiagnosis and even medication errors. The barriers to good communication skills are work overload nurses may not have time to sit and talk with patient or there could be a lack of privacy. The nurses" skill sets may differ in the ward creating a shortage of qualified nurses who are available to talk to patient and language is also a barrier *(Middleton, 2016).*

The National Patient Safety Agency identified communication difficulties as a major factor affecting child patient outcomes. Particular concerns included unclear documentation and nurses not being clear and

confident in their reporting *(National Patient Safety Agency, "NPSA" 2013).*

However, the World Health Organization collaboration for hospitalized child safety solution *(WHO, 2009)* recommends the use of the (**SBAR**) Situation, Background, Assessment and Recommendation tool to standardize communications in healthcare. The SBAR involves first clarifying the problem, then giving pertinent background information; followed by assessment of the situation and a recommendation. for allowing to communicate in very different styles, to have a common language *(JCI, 2014).*

The SBAR tool improved the quality of verbaland telephone orders to the critical care outreach team, greatly reduced the time for shift handovers and helped reduce adverse patient outcomes *(Christie & Robinson, 2009).*

Goal 3:-Improve the Safety of High - Alert Medications

In nursing care, nurses, as the last party responsible to prepare administration of patient's medicine, should document the actual and administration of medication on the medical administration record (MAR). The MAR contains the drug's name, dose, route, and frequency of administration *(Jensen,etal., 2009).*

Medication errors are defined as errors in drug ordering, transcribing, dispensing, administering, or monitoring. Which includes medications omitted, given at the wrong time, given to the wrong child, the wrong dose, the wrong medication, the result of a transcription error, given to a child with a known allergy, repeated without an order, given by the wrong route, and discontinued without an order *(Institute for Safe Medication Practice "ISMP", 2012).*

Errors are bound to occur in the practice of medicine given its complexity and noting that most of those errors are not the result of negligence. Ethicists have long espoused that physicians and nurses have an obligation to be truthful and to disclose information about medical mistakes to their hospitalized children *(International Council of Nurses , 2012).* Medication error also arises in drug

Medication error has been identified as one of the most common threats to patient safety in healthcare service *(Carley, etal., 2012).*Medication error also arises in drug selection, prescribing, dispensing, administration and therapeutic monitoring *(Yu, Hou, & Chiang,2010)*

Medication usage is a multidisciplinary process, which begins with the doctor's prescription, followed by the review and provision of medications by a pharmacist, and ends with the preparation and administration of the medication to the patient by a nurse *(Khowaja et al., 2008).*

In order to minimize the medication error and to ensure patient safety, healthcare professionals need to develop and maintain an ongoing process that uncovers potential risk while promoting ways to eradicate vulnerability to error *(Peate, 2010).* In turn, to accomplish these tasks, the healthcare system needs to provide resources to monitor and evaluate errors and to implement methods to reduce them.

The drugs data procedures are entered by the pharmacist when dispensing the order or by nurses when transcribing the order. Nurses have the responsibility to improve the safety of medications and to provide extra attention in high-alert medication. Nurses should know the teen rights in safe medication, as follows (1) the right medication, (2) the right patient, (3) the right time, (4) the right dose, (5) the right route, (6) right documentation (7) right to educate (8) right to refuse (9) right to assess and (10) right to evaluate *(Miake-Lye, Hempel, Ganz & Shekelle, 2013).*

The label in the container should be checked against the prescription chart to ensure that it is the correct prescribed medication. In addition, medication should only be dispensed from the original container. Any instructions pertaining to the medication such as the expiry date should also be noted. Nurse, as the person dispensing the drugs has to be familiar with the drug's basic information, any contraindications and side effects *(Pronovost et al., 2009)*.

Goal 4:-. Ensuring Correct-Site, Correct- Procedure, Correct-Patient Surgery.

Surgery is one area of health care in which preventable medical errors and near misses can occur *(Agency for Healthcare Research and Quality (US), 2008)*.

Preoperative verification of the correct person, procedure, and site should occur: a) at the time the surgery/ procedure is scheduled, b) at the time of admission or entry into the facility, c) anytime the responsibility for care of the patient is transferred to another caregiver, d) with the patient involved, awake, and aware, if possible, e) before the child patient leaves the preoperative area or enters the procedure/ surgical room. A preoperative verification checklist may be helpful to ensure availability and review of the following, prior to the start of the procedure *(Utter et al., 2009)*.

Preparation before patient receive operation, patient should be marked the operative site following 1) Make the mark at or near the incision site, 2) The mark must be unambiguous, 3) The mark must be positioned to be visible after the patient is prepped and draped, 4) The mark must be made using a marker that is sufficiently permanent to remain visible after completion of the skin prep. Adhesive site markers should not be used as the sole means of marking the site, 5) The method of marking

and type of mark should be consistent throughout the organization, 6) At a minimum, mark all cases involving laterality, multiple structures (fingers, toes, lesions), or multiple levels (spine), 7) The person performing the procedure should do the site marking, 8) Marking must take place with the patient involved, awake, and aware, if possible, 9) Final verification of the site mark must take place during the time out, 10) Defined procedure must be in place for patient who refuse site marking *(Yu, Hou & Chiang, 2010)*.

Wrong site surgery is generally caused by a lack of a formal system to verify the site of surgery or a breakdown of the system that verifies the correct site of surgery. *Hughes (2008) and Crane, (2011)* mentioned the Joint Commission found the top root causes of error in surgery due to communication failure (70%), procedural noncompliance (64%), and leadership (46

The great concern in surgery is Wrong-Site Surgery (WSS), which encompasses surgery performed on the Wrong Side or site of the body, wrong surgical procedure performed, and surgery performed on the wrong patient. This definition also includes "any invasive procedure that exposes child patient to more than minimal risk, including procedures performed in settings other than the OR (operating room), such as a special procedures unit, an endoscopy unit, and an interventional radiology suite *(JCI, 2014)*.

Goal 5:--Reducing the Risk of Health Care -Associated Infections

Healthcare associated infections (HAIS) are infections acquired as a consequence of a person's treatment by a healthcare giver in the course of their duties *(Leigh, 2009)*. HAIs can also be associated with medical care delivered in the community. These infections arise from micro-organisms that people carry safely on their skin or in their body, and only become a problem when the organisms have an

opportunity to breech the body, s natural defenses, for example, an open wound, catheterization or intravenous devices *(***Agency** for *Healthcare Research and Quality, 2012)*

Healthcare Associated Infections (hais) are one of the most serious patient safety issues in health care today. Infections present a hazard and a risk for both patient and healthcare provider are the fifth leading cause of death in acute-care hospitals *(Klevens et al, 2007)* and the third most common cause of death in United States . Between 5% and 15% of hospital inpatient develop an infection during their admission, and critically ill, Pediatric intensive care units (PICU) are 5 to 10 times more likely to acquire an HAI than those in general wards *(welsh, et al., 2011).* Furthermore the number still increase, around 5-10% of hospitalized children in developed countries get HAls, but the risk is 2-20 times higher in poorer countries *(Morris, 2008).*

In order to minimize the infection risks, principle of infection prevention and control must be implementing and adhered by all concern. Therefore in seeking to reduce the risk of Healthcare Associated Infection (HCAI), both environmental and clinical factors need to be considered *(Health Protection Agency, 2009).*

Goal 6:-Reducing the Risk of Patient Harm Resulting from Fall.

Fall is the most frequently reported critical incident in acute care in hospitals *(Carroll, Pappola, & McNicoll, 2009).* Children falls represent over one-third of incidents reported in hospitals and considered the largest single category of reported hospital adverse events *(Tiedemann et al., 2008).* There are significant costs associated with children falls, including children care costs and increased length of stay *(Hafizah et al., 2009).* With approximately 2% to 7% of acute-care hospitalized children

experiencing at least one fall during their stay *(Carroll and Pappola, 2009).*

Nurse should put the safety policy into practice through careful planning of the safety activities. Planning means determination of the safety objective, priorities, indicator and preparation of working program to achieve the goals. Each ward can have different objectives and priorities according to the each national patient safety goals. In order to provide safety in practice, nurse is delegate some duties to representative nurse's representative are elected from among nurses who has knowledge and experience in patient safety *(Trentam et al., 2010).*

The nurse representative's main task is follow the protocol or policy, which had considered; otherwise the nurse representative enforcement power is very limited. In the plan phase, nurse will manage each patient safety goal.Firstly, nurse are responsible for ensuring all staff nurses within their sphere of responsibility are aware of policy, protocol and procedure for identify patient correctly. They are responsible for investigating all incidents of patient ＂ misidentification; ensuring action to prevent reoccurrence is implemented *(hall et al., 2008).*

National Patient Safety Agency *(NPSA, 2009)* commissioned two pieces of work on matching patient with aspects of care. One, carried out by Human Reliability Associates (HRA), reviewed manual checking processes, that is those which did not rely on or make use of electronic aids.

Furthermore, the Joint Commission International *(JCI, 2011)* mentioned policies or procedures are collaboratively developed to improve identification processes, in particular:

Goal 1: two way for child Patients identifiers are mainly and not including the use of the child patient room number or

location, child patient identification should be before the following:-

Before administering medications, blood, or blood products, identify before taking blood sample and other specimens for clinical testing, identify before providing treatments and procedures, and identify before any diagnostic procedures *(JCI, 2014).*

Significance of the problem

Clearly, different research methods and approaches are needed at each of the different six goals of the continuum to assess the application of dimensional of children international safety goal on hospitalized pediatric patient. A number of research approaches can be used at only one goal to identify risks and hazards including the use of medical records and administrative record review, event reporting, direct observation, process mapping, focus groups, probabilistic risk assessment, and safety culture assessment. No single method can be universally applied to identify all such international goals for safety children patients.

So that this study will assess nurses knowledge for implementation of international patient safety goals.

Aim of the study

This study aimed to assess The dimensional application of nursing for international safety goals in hospitalized children .

Research Questions:

1-What are the levels of nurses knowledge about the dimensional application of children international safety goals in hospital?

2- What are the levels of nurses practices about the dimensional application for international patient safety goals ?

3-What are the factors contributing as obstacles for dimensional application of children international safety goals in hospitalized children?

Subjects And Methods

Research Design

A descriptive design was used to conduct this study.

Settings

The study was conducted at Ain Shams children hospital (medical and surgical departments and neonatal/pediatric intensive care units) affiliated to Ain Shams University Hospitals and Health Insurance Hospital in Nasr city.

Subject

The subject of this study was purposive sample composed of 100 nurses working at the previously mentioned settings regardless their experiences, level of education, position, or age.

Technical Design

Tools of data collection

Data collected through used the following tools:

First tool: A structured Interviewing Sheet: this tool was designed by the researcher and written in simple Arabic language based on scientific literature review to gather data in relation to the following parts:

Part I. It concerned with characteristics of the studied nurses: age, sex, position, level of education, years of experience.

Part II. It concerned with nurse's knowledge about dimensional of children international safety goals in pediatric department at previously mentioned settings .

Scoring system: The correct answer was scored one, and that incorrect was scored zero. These scores were summed-up and converted into a percent score for total score .

- Score from < 50 referred to poor knowledge.

- Score from 50 < 75 referred to average knowledge.

- Score from 75 ≤ 100 referred to good knowledge.

Second Tool: Observational Checklist: It was adopted from **(JCI, 2014)** used to assess nurses dimensional application of children international safety goals in Pediatric hospitals

Scoring system: The applied step was scored one, and that not applied steps was scored zero. These scores were summed-up and converted into a percent score.

- Score from < 80 referred to unsatisfactory practice.

- Score from 80 ≤ referred to satisfactory practice.

II. OPERATION DESIGN

The operational design for this study consisted of three phases, namely preparatory phase, pilot study, and fieldwork.

Preparatory Phase

This phase included reviewing of literature related to children international safety goals. This served to develop the study tools for data collection. During this phase, the researcher also visited the selected places to get acquainted with the personnel and the study settings. Development of the tools was under supervisors' guidance and experts' opinions were considered.

Pilot Study

Pilot study was carried out on 10%(10) of nurses working at Ain Shams Children Hospital (medical and surgical departments and neonatal/pediatric intensive care units) affiliated to Ain Shams University Hospitals and Health Insurance Hospital in Nasr city in order to test the applicability of the constructed tools and the clarity of the included questions related to nurse's knowledge and practices toward children international safety goals. The pilot has also served to estimate the time needed for each subject to fill in the questions. According to the results of the pilot, some corrections and omissions of items were performed as needed. The pilot participants were not included in the main study sample.

Fieldwork

To carry out the study, an approval was obtained from Ain Shams children hospital (medical and surgical departments and neonatal/pediatric intensive care units) affiliated to Ain Shams University Hospitals and Health Insurance Hospital in Nasr city. A letter was issued to them from the Faculty of Nursing, Ain-Shams University, explaining the aim of the study in order to obtain their permission and cooperation. Data were collected during a six months periods ,the researcher was available two days per week foreach hospital, during the morning shift. The questions sheet of knowledge was filled by the nurses in 20 minutes and the

researcher observe the nurses and filled the observation at checklist .

III. Administrative Design

Approval will be obtained through on issued letter from the form the Dean of Faculty of Nursing, Ain Shams University to directors of the previously mentioned settings. The researcher then met the hospital director and explained the purpose and the methods of the data collection.

Ethical consideration

Verbal approval was obtained from the nurse before inclusion in the study; a clear and simple explanation was given according to their level of understanding, physical and mental readiness. They secured that all the gathered data was confidential and used for research purpose only.

The ethical research considerations include the following:

- The research approval was obtained from the faculty ethical committee before starting the study.

- The researcher was clarify the objectives and aim of the study to nurse included in the study before starting

- The researcher was assuring maintaining anonymity and confidentiality of subjects' data included in the study

- The nurses informed that they are allowed to choose to participate or not in the study and they have the right to withdraw from the study at any time.

IV. Statistical Analysis

Data collected from the studied sample was revised, coded and entered using. PC. Computerized data entry and statistical analysis were fulfilled using the statistical package for social sciences (SPSS) version 20.Data were presented using descriptive statistics in the form of frequencies, percentages. Chi-square test(X^2) was used for comparisons between qualitative variables. Statistical significant was considered at p-value <0.05.

Results

Table (1) Nurses' age ranging from 20 years to less than 30 years, and the mean age of the nurses is 22.1±3.6 years in additional 67% of them were females and more than half (56%) of nurses were diploma nurses, while 20% of them are bachelor and 39% of have less than 5 years, respectively 77% of them did not attend training program regarding patient safety.

Table (2) shows that the majority of participants (59 %) have poor knowledge regarding patient safety, followed by (33 %) average knowledge, while the lowest percent (8**%**) have good knowledge regarding patient safety.

Table (3) shows that the majority of participants (59 %) did not apply patient safety standard practices and 41 % were applied patient safety standard.

Table (4) relation between gender of the studied nurses and their knowledge regarding to patient safety table (5) illustrates that there was highly statistical significant difference between gender of the studied nurses and their knowledge regarding to patient safety at (p<0.0001).

Table (6) Relation between qualification of the studied nurses and their knowledge regarding to patient safety

Table (7) illustrates that there was highly statistical significant difference between qualification of the studied nurses

and their knowledge regarding to patient safety at (p<0.0001).

Table (8) Relation between years of experience of the studied nurses and their knowledge regarding to patient safety

Table (9) illustrates that there was statistical significant difference years of experience between of the studied nurses and their knowledge regarding to patient safety at (p<0.05).

Table (1): Distribution of the studied nurses according to their socio-demographic characteristics (No=100)

Items	No	%
Age per year		
< 20 years	41	41.0
20 < 30	27	27.0
30< 40 years	23	23.0
More than 40	9	9.0
Mean ±SD	22.1±3.6	
Gender		
Male	33	33.0
Female	67	67.0
Qualification		
Diploma nurse	56	56.0
Technical institute	24	24.0
Bachelor	20	20.0
Experience years		
< 5 years	39	39.0
5< 10	28	28.0
10< 15 years	23	23.0
More than 15	10	10.0
Mean ±SD	4.3±0.8	
Monthly income		
Enough	62	62.0
Not enough	38	38.0
Receiving training		
Yes	23	23.0
No	77	77.0

Table (2): Distribution of the studied nurses according their total knowledge regarding patient safety (No=100)

Item	No	%
Poor	59	59.0
Average	33	33.0
Good	8	8.0

Table (3): Distribution of the studied nurses according their total practices regarding patient safety (No=100)

Practice	No	%
Complete	41	41
incomplete	59	59

Table (3) shows that the majority of participants (59 %) did not apply patient safety standard practices and 41 % were applied patient safety standard.

Table (4): Relation between gender of the studied sample and their knowledge regarding to patient safety

Gender	Good		Poor		Average		X²	P Value
	No	%	No	%	No	%		
Female	3	3.0	36	36.0	25	25.0	10.57	**0.0001**
Male	5	5.0	23	23.0	8	25.0		

Table (5): Relation between qualification of the studied sample and their knowledge regarding to patient safety

Qualification	Good		Poor		Average		X²	P Value
	No	%	No	%	No	%		
BSN	2	2.0	12	12.0	6	6.0		
Tech	1	1.0	16	16.0	7	7.0	10.23	**0.0001**
Diploma	5	5.0	31	31.0	20	20.0		

Table (6): Relation between years of experiences of the studied sample and their knowledge regarding to patient safety

Experiences	Good		Poor		Average		X²	P Value
	No	%	No	%	No	%		
<5 years	2	2.0	22	22.0	15	15.0		
5-10 years	1	1.0	21	21.0	6	6.0		
10-15 years	1	1.0	8	8.0	1	1.0	18.68	**0.02**
15-20 years	0	0.0	4	4.0	5	5.0		
>20 years	4	4.0	4	4.0	6	6.0		

Table (7): Relation between gender of the studied sample and their practice regarding to patient safety

Gender	Competent		Incompetent		X²	P Value
	No	%	No	%		
Female	28	28.0	36	36.0	0.56	0.53
Male	13	13.0	23	23.0		

Table (8): Relation between qualification of the studied sample and their practice regarding to patient safety

Qualification	Satisfactory		Unsatisfactory		X²	P Value
	No	%	No	%		
BSN	8	8.0	12	12.0		
Tech	9	9.0	15	15.0	0.21	0.90
Diploma	24	24.0	32	32.0		

Table (9): Relation between years of experiences of the studied sample and their practice regarding to patient safety

Experiences	Satisfactory		Unsatisfactory		X²	P Value
	No	%	No	%		
<5 years	9	9.0	30	30.0		
5-10 years	11	11.0	17	17.0		
10-15 years	5	5.0	5	5.0	15.58	**0.004**
15-20 years	8	8.0	1	1.0		
>20 years	8	8.0	6	6.0		

Discussion

Patients' safety for hospitalized children is a key aspect in determining healthcare organizations' ability to address and reduce risks in pediatric care settings. Nurses play a major role in children's' safety because they are accountable for direct and continuous child care. There is little known information about children's safety in Egypt **(Lotfi, 2015).**

The current study aimed to assess the dimensional application of international safety goals for children in hospital.

The current finding illustrated that, nurses' age of the studied sample were ranging from 20 years to less than 30 years, and the mean age of the nurses is 22.1±3.6 years in addition to more than two thirds of them were females, and more than half of nurses were diploma nurses, while one fifth of them are bachelor, 39% more than one third of them have less than 5 years of experiences, also, nearly two thirds of them have enough monthly income and more than

three quarters of them did not attend training program regarding patient child safety.

This study was in accordance with the study of **Ahmed, 2015**, who study the level of nurse's practice of patient safety standard at the selected MOH hospital in Egypt. Mentioned that most of study participants were females, while more than one third of them were males. The more than half of the participants were holding diploma degree, while nearly one quarter of them were holding graduate technical and the least percentage of the participants having bachelor degree. The mean of experience years were 10.42±7.58. in addition to more than one quarter of the participants were from surgery unite and equal least percentage of participants more than one fifth of them were from the general medicine, ICU and pediatric medicine while the lowest percentage of the participants from quality units

Regarding to nurses' knowledge about patient identification, this finding showed that, the majority of nurses have incorrect answer regarding to definition, aim, and indications of patient identification, site of identification band, identification of

conscious patient, identification of unconscious patient and identification of outpatient patient respectively.

This study was in accordance with the study of **Khater, et al. 2015,** who studies nurses' perceptions of patient safety culture in Jordanian hospitals particularly from the perspective of healthcare providers, mentioned that, there most of the studied nurses have incorrect perception regarding the identification of patients (ID). Implications for nursing and health policy Study results implied that improving patient safety culture requires a fundamental transformation of nurses' work environment specially for children ID.

Regarding to nurses' knowledge about improve communication, this table shows that, most of the studied nurses have incorrect answer regarding to receiving medical orders, uses of verbal order, different between verbal and telephonic order, verbal /telephonic order in emergency situation, assure what write as what read, abbreviation in medical orders and verbal ordering in critical investigation respectively.

The current study finding was supported by the finding of **Moghri et al., 2012** , who study Validation of Farsi version of hospital survey on patient Safety culture questionnaire, using confirmatory factor analysis method, mentioned that organizational factors like organizational preparation and commitment towards redesigning and continuous learning, need to establish the system of communication, because most of the studied sample identified incorrect answers regarding interpersonal communication in patient safety.

Regarding to nurses' knowledge about medication safety, this table shows that, most of the studied nurses have incorrect answer regarding aim of separating high alert medication, list of lookalike sound alike medication, precaution of look-alike sound alike medication, uses of sign for high alert

medication, handling high alert and criteria for high alert medication signs respectively. This study finding was in agreement with the study of **Mohammad, et al., 2014,** about Iranian Nurses' Perception of Patient Safety Culture, reviewed that in recent decades, patient safety has become a high priority health system issue, due to the high potential of occurring adverse events in health facilities, mentioned that most of the studied sample knowledge regarding patient safety were incorrect with Non-punitive response to error.

Regarding to nurses' knowledge about safety operation and procedure, this study finding indicated that the majority of the studied nurses have incorrect answer regarding aim meaning of time out, appropriate time for time out, aim of time out, medical team members responsible to time out and time out includes respectively. This study finding was highly supported by the study of **Bahrami, et al., 2013,** who mentioned that Iranian hospitals are far from a strong positive patient safety culture and changes are inevitable. Mentioned that no one from the studied sample know about time out or its items.

Regarding to nurses' knowledge about infection control measures, this table shows that, the majority of the studied nurses have incorrect answer regarding definition of hospital a queried infection, methods of infection transmition, preventive measures for infection, type of hand hygiene, personal protective equipment, wearing of personal protective equipment and removal of personal protective equipment respectively. This study was in agreement with the study of **Elston, et al., 2011,** who mentioned that Therefore assessing the patient safety culture can be spotted as one of the first steps in safety promotion, because understanding of the current situation is helpful for developing effective safety promotion plans and policies regarding infection control. While the assessing the patient safety culture has also

other benefits: it helps detecting vulnerabilities of transmission the infection

Regarding to nurses' knowledge about prevent patient falling, this table shows that, most of the studied nurses have incorrect answer regarding aim of preventive patient fall program, assessment patients fall risk, items of fall risk scale and action with high score of fall respectively. This study was in accordance with **Palmieri, et al., 2010, who study** Creating the safety culture is a challenging issue due to requiring substantial changes in the basic concepts of organizational life. Mentioned that there are no standardized methods to guide health professionals in the road of developing similar cultures of nurse's knowledge regarding children falls.

Regarding to nurses' knowledge about international standards of patient safety, this finding illustrated that, most of the studied sample nurses unknown the aim from safety to patient, correct time for patient identification , improve effective communication , high alert medication , infection control , surgical safety checklist list and prevent risk of patient fall respectively. This study finding was in agreement with the study of **Nasiripour, et al., 2011, who study** the ongoing dispute in the safety science about the terms culture, climate and attitude is notable. Although, the items of patient safety were not identified to the nursing staff.

The investigator believes that the represent of different new concepts regarding patient safety. and term the culture is more subjective and invisible than climate, therefore that the safety climate can be thought as the quantitative manifestation of the safety culture, which can be quantified with visible indicators like outcome (like the number of adverse events) or process indicators (like the rate of adherence to caring process guidelines)

The current finding concerning that the more than half of studied sample have poor knowledge regarding patient safety, and more than one third has average knowledge, while the rest of them have good knowledge regarding patient safety.

The study of **Eldeeb, Ghoneim and Eldesouky 2016**, about perception of patient safety among nurses at teaching hospital, reviewed that all healthcare professionals are susceptible to commit adverse events. Nurses are the key to safety improvements in many aspects. Aim of this study was to investigate perception of patient safety among nurses at Shebin ElKom Teaching Hospital, mentioned that most of the nurses had poor knowledge regarding patient safety.

The current study clarified that two thirds of the studied nurses were did not apply patient identification, while more than one third of them were apply patient identification. The similar study about Factors Shaping Patient Safety Management in the Middle East Hospitals from Nursing Perspective: A Focus Group Study of **Alkorashy, 2013,** who mentioned that Middle East hospitals make all the efforts to manage patient safety in an effective and efficient manner. A semi-structured interview for 3 focus groups followed by a content analysis for the responses was applied. The main similar findings to the current study were most of the study sample did not apply patient identification correctly even if they apply it.

The current findings illustrated that more than two thirds of the studied nurses were did not apply effective communication, while nearly one third only of them were applied effective communication.

A similar study of Haetham, et al., 2015 about patient's safety culture: principles and applications, mentioned that In Saudi Arabia, The hospital survey on patient's safety culture questionnaire was distributed in 13 general hospitals in Riyadh City, to 223

health professionals including nurses, technicians, managers and medical staff. Results showed that the overall patient's safety grade was rated as excellent or very good by most of respondents, acceptable by one third and failing or poor by the rest of them. More than half of mentioned that most of the nurses have poor communication regardless their satisfaction from their safety in such hospitals.

The investigator believes that this may be due to in this hospital most of nurses not speak the mother language of KSA so that it consider from the barriers of communication but in Egypt this barriers because of improper training about the effect of communication in Patient safety.

On assessing medication administration in safety patient application it was found that more than two thirds of the studied nurses did not apply safety medication, while nearly one third of them applied safety medication.

This study finding was supported by the study of **Zein and Abd El-Aal, 2013**, who study the relationship between perceived safety climate, nurses' work environment and barriers to medication administration errors reporting, mentioned that most of the study sample didn't apply safety medication , while they know that Patient safety is one of the main concerns accidents within a non-blaming work environment. Overwhelm healthcare administrators and system, nurses, in relation to other health care planners, since harm to patient often comes from a workers, tend to be the target of blame within health care failing system (not an individual) that lacks the human professionals since they form the middle boundary and/or non-human resources necessary to provide between doctor and patient expected and executed care.

Concerning safety surgery and procedure in patient safety this finding indicated that more than half of the studied

nurses did not apply safety surgery and procedure, while nearly two quarters of them applied safety surgery and procedure. According to **Kamal, 2013, who study** These factors imitate a drift from efficiency into followers to these physicians. Accordingly, seldom are unacceptable performance, which predisposes to errors doctors held accountable for mistakes in ordering care and accidents during making the OR Consequently, the organization begins to that nurses must execute, since a nurse's role is to identify the correct sit and sign on it also, the nurse should indorse the sit to the other circulating and scrubbing nurse. These role should be involve the doctors (surgeon).

As regard the application of infection control it was clear from the current study that two thirds of the studied nurses did not apply infection control measures correctly, while more than one third of them applied infection control measures.

In the same respect, with these study findings, *Rabaud et al. (2010)* described the behavior of French nurses after occupational exposure to blood and studied the reasons for not reporting such incidents to the occupational medicine service or the hospital authorities. The researchers concluded that nursing personnel continue to ignore or be unaware of many factors surrounding occupational exposure to blood, meaning that information and counseling must continue unabated. They concluded that the most of the studied nurses apply the infection control methods but incorrectly, regarding respecting Standard Precautions as a topic in patient safety.

The current study clarified that more than half of the studied nurses did not apply preventive measures of patient falling while nearly two quarters of them were applied preventive measures of patient falling. This study was in an agreement with the study of **Nieva and Sorra, 2013 mentioned that a**ccording to the Agency of Healthcare

Research and Quality (AHRQ), developing a patient's safety culture requires an understanding the values, beliefs, and norms about risks of patient falls especially in pediatric care settings**.**

It was found from the current study that most of the participants did not apply patient safety standard practices the current study was supported by the study of **Patient safety and quality of healthcare reports 2010, who mentioned that in relation to** the percentage distribution of the nursing staff according to their practices for patient safety, more than half of the studied sample had unsatisfactory practices with patient safety, while more than one third had satisfactory practices with patient safety. It was noted that when informing nurses about patient safety, using official statistics as their main information source, indicating that reliable and dependable data is either not available in the public domain or is playing a limited role in forming their perceptions. The recently adopted Recommendation on patient safety encourages nurses to disseminate information to patients on risk, safety measures which are in place to reduce and prevent errors and harm, including the right to informed consent to treatment, to facilitate patient choice. If implemented, it should contribute to improving ways of providing information to patients.

Relation between characteristics of the studied nurses and their knowledge regarding to patient safety the current study illustrated that there was highly statistical significant difference between characteristics of the studied sample namely, gender, qualification, years of experience of the studied nurses and their knowledge regarding to patient safety at ($p<0.0001$).

Relation between characteristics of the studied sample and their level of practice for patient safety standard this study illustrated that there was no statistical significant difference between characteristics of the study sample, namely, gender and qualification of the studied sample and their level of practice for patient safety standard at ($p>0.05$).

Relation between years of experiences of the studied sample and their level of practice for patient safety standard it was clear that there was statistically significant difference between years of experiences of the studied sample and their level of practice for patient safety standard at ($p<0.01$).

This study was supported by the study of **Jeremiah, et al., 2015,** who do Freestanding Emergency Departments Choose to Locate? A National Inventory and Geographic Analysis in Three States and determine the number and location of freestanding emergency departments (EDs) across the United States and determine the population characteristics of areas where freestanding EDs are located and its relation with the ER department application of patient safety, mentioned that the gender and qualification was not in relation with the ER health care providers and their practices but the relation was clear in knowledge.

The current study was supported by the study of **Anand, 2016**, who study the impact of institutional changes felt by faculty members": a study with reference to management institutes, describe the management Institutes for patient safety are changing over the last decade because of competition, changes in technology, teaching pedagogy, and placement expectations from students and value for money for their parents. Also, the same study indicated that there was statistically significant difference between years of experiences of the studied sample and their level of practice and knowledge for patient safety standard at ($p<0.01$).

Conclusion

In the light of the study findings, it might be concluded that, more than half of the studied nurses had poor knowledge and

unsatisfactory practices regarding the levels of the dimensional application of international safety goals for children in hospital. Meanwhile the factors contributing as obstacles for dimensional application of international safety goals for children in hospital were observed in the positive relation between the years of experiences of the studied sample and its relation with their level of knowledge and practices.

Recommendations

In the light of the study findings, the following recommendations are suggested:

- Establishing the system of application the international safety goals for children in hospital.

- Emphasize the important of application the international safety goals for children in hospital in nursing.

- Continuous program training and evaluation for nurses about application the international safety goals for children in hospital.

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